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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,876	01/18/2000	HITOSHI SUMIYA	53674-015	5610

20277 7590 11/19/2002

MCDERMOTT WILL & EMERY
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER	
GROUP, KARL E	

ART UNIT	PAPER NUMBER
1755	26

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED:

Please find below a communication from the EXAMINER in charge of the application.

Commissioner of Patents.

1. Attached PTO-892 listing translation of Japanese document 9-59068 cited by applicants.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Group whose telephone number is (703)308-3821. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703)308-3823. The fax phone number for this Group is (703)872-9310, for any non-final amendment or communication, and (703)872-9311 for any after-final amendment or communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-0661.

KARL GROUP
PRIMARY EXAMINER
ART UNIT 1755

Keg
November 15, 2002

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GROUP 1700

BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Paper No. 26

Application Number: 09/462876

Filing Date: January 18, 2000

Appellant(s): Sumiya et al

Arthur J. Steiner

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 23, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1,4-10 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

A substantially correct copy of appealed claim 5 appears on page 17 of the Appendix to the appellant's brief. The minor errors are as follows: The range of "300 to 100 w/m-k" should be "300 to 1000 w/m-k". The amendment of May 14, 2001, paper No. 9, incorrectly copies this claim from the originally filed claim.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,691,260	SUZUKI ET AL	11-1997
6,096,671	KAWASAKI ET AL	8-2000
9-59068	JAPAN	3-1997

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1,4-8 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suzuki et al (5,691,260) and Japanese Document 9-59068 (translation supplied), each taken alone.

Suzuki et al teach a cubic boron nitride sintered body which is formed by a direct conversion method. The grain size of the sintered boron nitride is preferably less than 1 micron, see column 4, lines 4-12. The boron nitride sintered article is sintered at temperatures between 1900°C and 2100°C at pressures greater than 6.5 GPA, see column 4, lines 45-67 for 100 minutes, column 6, line 12. The formed article is used for cutting cast iron, column 6, lines 47-55.

Japanese document 9-59068 teaches a cubic boron nitride article having a grain size of .1-1 microns which is formed by sintering a pure hexagonal boron nitride powder at 2000°C at 7 GPA for 30 minutes, see paragraphs 0010-0011 of translation.

The cubic boron nitride bodies of Suzuki et and the Japanese document fail to disclose the claimed x-ray diffraction intensity ratios however, "once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection [is] made, the burden shifts to the applicant to show an unobvious difference." MPEP 2113. This rejection under 35 U.S.C. 102/103 is proper because the "patentability of a product does not depend on its method of production." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki et al (6,096,671) further in view of Suzuki et al (5,691,260).

Kawasaki et al teach the production of hexagonal boron nitride powders for the production of boron nitride sintered bodies wherein boron oxide or boric acid is reacted with a compound such as melamine (nitrogen and carbon containing material) to produce a hexagonal boron nitride powder. The hexagonal boron nitride when used to produce sintered boron nitride bodies reduces the anisotropy, increases purity and strength, see column 3, lines 15-23

Kawasaki et al fail to produce cubic boron nitride sintered bodies.

Suzuki et al teach the production of sintered cubic boron nitride bodies from boron nitride powders using high pressures and elevated temperatures by way of a direct conversion method, see column 2, lines 44-59..

It would have been obvious to one of ordinary skill in the art to use the boron nitride particles and method of synthesis taught by Kawasaki et al in the sintering process of Suzuki et al because it is taught that the starting particles yielded in the process of Kawasaki et al are pure, produce high density shapes that maintain their original shape, see column 3, lines 11-3, as well as having less anisotropy, column 3, line 22.

(11) Response to Argument

A translation of the Japanese document 9-59068 which was cited by the appellants is supplied with the examiner's answer and therefor the reliance upon that document is considered proper.

Appellants argue that the it has not been pointed to where in the prior art documents where the claimed diffraction intensity ratio is taught. Suzuki et al and the Japanese document 9-59068 both teach cubic boron nitride bodies to be used in the same application as the instant invention (cutting cast irons) with the same grain size as that claimed (less than 1 micron) and processed under temperature and pressure conditions not unlike that utilized by the instant invention. Because the office does not have testing equipment available such as x-ray diffraction, and no available means to produce samples the burden is properly placed upon the applicant to show by way of tangible evidence that the claimed properties are not met by the articles of the prior art. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983).

Appellants further argue the examples of the specification, in particular comparative example 2 which is further disclosed in the declaration of 9-23-2002, demonstrate that the claimed properties are not inherent in the prior art examples. The comparative examples in the instant disclosure are not considered to be representative of the articles disclosed in Suzuki et al and the Japanese document. Firstly it should be noted that the article of comparative example 2 is sintered for 15 minutes while Suzuki et al teach 100 minutes (column 6, lines 10-12) and the Japanese document teaches 2 to 4 hours (paragraph 0010 of translation). Clearly sintering times one tenth of that disclosed in the prior art would have a clear affect on the properties of the sintered article. Secondly in comparative example 2, the number of passes capable of cutting is disclosed as 2, while Suzuki et al discloses the produced sintered cutting chip was operational for one hour in the case of cast iron (column 6, lines 56-67). The Japanese document also teaches a cutting time of 60 minutes (paragraph 0013). It is noted that the declaration filed 9-23-2002 merely incorporates the examples of the instant disclosure therefor has been previously considered upon the consideration of the instant specification. The data in the declaration has been reconsidered but is not persuasive in overcoming the rejections for the above reasons. Applicants have also failed to supply tangible evidence that the limitations of dependent claims 4-6 are not met by the prior art. The grain size of claim 8 is clearly with the grain sizes taught by the prior art.

In reference to the obviousness rejection of claims 9 and 10 it is argued Kawasaki et al merely disclose the use of hBN particles to produce sintered boron nitride bodies. It is agreed that Kawasaki et al teach the use of hBN particles to produce sintered bodies however it is further taught that when the particles taught by Kawasaki et al are used the sintered bodies produced have a higher purity, density, strength and specifically less anisotropy (column 3, lines 15-23). Clearly these improving factors would give sufficient

motivation to one of ordinary skill in the art to use the BN particles taught by Kawasaki et al in the process of Suzuki et al. Suzuki et al teach the low pressure phase boron nitride is one of hexagonal structure(column 2, lines 52-58). It should be noted that the instant claim 9 merely requires a low pressure phase of boron nitride.

The process taught by Kawasaki et al to produce the low pressure phase boron nitride starting powder is not considered unlike that used in the instant invention, namely reacting a melamine borate into form hexagonal boron nitride. Applicants have not shown there is any difference in crystallinity. The pressure parameters and temperature parameters of claim 10 are clearly within the ranges taught by Suzuki et al, column 6, lines 60-67, temperatures of 1900-2100° and pressures greater than 6.5 GPa.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

KARL GROUP
PRIMARY EXAMINER
GROUP 1755

keg

December 6, 2001

Conferees

Mark Bell

Terell Morris